

NEBRASKA ADMINISTRATIVE CODE

Title 117 - NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY

Chapter 1 - DEFINITION OF TERMS

001 “Acute Criteria” shall mean the threshold concentration of a substance that aquatic organisms can be exposed to for a period of 96 hours or less with no resulting acute toxicity.

002 “Acute Mixing Zone” shall mean the limited area or volume of a waterbody, as designated by the Department, which adjoins a point source discharge, where acute criteria may be exceeded while wastewaters which have received the applicable level of treatment or control are allowed to assimilate, disperse, dissipate, or undergo chemical transformation.

003 “Acute Toxicity” shall mean the response of an aquatic organism to a concentration of a substance which results in injury or mortality within a period of 96 hours or less.

004 “Acute Toxic Units (TU_a)” shall mean the reciprocal of the effluent dilution that causes an acute effect (e.g., LC₅₀) to the test organism by the end of the acute exposure period.

005 “Applicable Level of Treatment or Control” shall mean that treatment or control which is required by Title 119 - Rules and Regulations Pertaining to the Issuance of Permits under the National Pollutant Discharge Elimination System; Title 120 - Procedures Pursuant to Section 401 of the Federal Clean Water Act, 33 U.S.C. § 1251 Et Seq., for Certification by the Department of Activities Requiring a Federal License or Permit which may Result in a Discharge; or which is otherwise specified by the Department considering best available technology and management practices.

006 “Beneficial Use” shall mean any productive use of surface waters for which water quality is protected. Beneficial uses include but are not limited to agricultural, industrial, and public water supplies; support and propagation of fish, and other aquatic life; recreation in and on the water; and aesthetics. Waste assimilation, disposal, or transport are not beneficial uses.

007 “Bioassay” shall mean a test used to evaluate the relative toxicity of a substance by comparing its effect on a living organism to the effect of a standard preparation (control) on the same type of organism.

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008 “Canal” shall mean an artificial waterway constructed for the purpose of developing water power, or any other useful purpose, and from which water can be taken for irrigation.

009 “Chronic Criteria” shall mean the threshold concentration of a substance that aquatic organisms can be exposed to for a period exceeding 96 hours with no resulting chronic toxicity.

010 “Chronic Mixing Zone” shall mean the limited area or volume of a waterbody, as designated by the Department, which adjoins a point source discharge, where chronic criteria may be exceeded while wastewaters which have received the applicable level of treatment or control are allowed to assimilate, disperse, dissipate, or undergo chemical transformation.

011 “Chronic Toxicity” shall mean the response of an aquatic organism to a concentration of a substance which results in adverse effects such as injury, mortality, reduced growth, or impaired reproduction after period of exposure exceeding 96 hours.

012 “Chronic Toxic Units (TU_c)” shall mean the reciprocal of the effluent dilution that causes no chronic toxicity to the test organisms by the end of the chronic exposure period.

013 “Clean Water Act” shall mean Public Law 92-500, as amended by Public Law 95-217 and Public Law 100-4, 33 U.S.C. §1251 et seq.

014 “Colloidal Substances” shall mean clay or other substances which do not settle out of suspension in water without the use of a flocculent.

015 “Conductivity” shall mean a measure of the ability of water to conduct an electrical current which is expressed in micromhos per centimeter. Conductivity is related to the number and types of chemical ions or dissolved solids in solution.

016 “Cubic Foot per Second (cfs)” shall mean the unit of measurement used in reporting stream discharge, sometimes referred to as second-foot (sec-ft). It is a volume of one cubic foot passing a given point during one second of time and is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

017 “Daily Mean” shall mean an average of at least two appropriately spaced measurements, as determined by the Department, calculated over a period of one day. In calculating the daily mean for dissolved oxygen, values used in the calculations shall not exceed the dissolved oxygen air saturation value. If a measured value exceeds the dissolved oxygen air saturation value, then the dissolved oxygen air saturation value shall be used in calculating the daily mean.

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018 “Department” shall mean the Nebraska Department of Environmental Quality.

019 “Dissolved Oxygen (DO)” shall mean a measure of the amount of free oxygen in the water.

020 “Dissolved Oxygen Air Saturation Value” shall mean the concentration of dissolved oxygen which represents 100 percent saturation at any given point in a water body based on the water temperature and atmospheric pressure.

021 “EPA” shall mean the United States Environmental Protection Agency.

022 “Early-Life Stages” shall mean all embryonic and larval stages and all juvenile forms of aquatic life to 30 days following hatching.

023 “Effluent” shall mean wastewater, excluding sludge, discharging from a wastewater treatment works.

024 “Endangered Species” shall mean, for the purpose of this Title, any aquatic species identified by the Nebraska Game and Parks Commission whose continued existence as a viable component of the wild fauna of the State is determined to be in jeopardy or which meets the criteria of the Federal Endangered Species Act.

025 “Epilimnion” shall mean the warm, freely circulating upper layer of thermally stratified lakes.

026 “Existing Uses” shall mean those beneficial uses actually attained or attainable in a water body on or after November 28, 1975, whether or not they are included in these standards.

027 “Fecal Coliform” shall mean the portion of the coliform bacteria group which is present in the gut or feces of warm-blooded animals and generally includes organisms which are capable of producing gas from lactose broth in a suitable culture medium within 24 hours at $44.5 \pm 0.5^{\circ}\text{C}$.

028 “Four-Day Average” shall mean an average of the daily mean values calculated over a period of four consecutive days.

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029 “Garbage” shall mean rejected food wastes, including waste accumulation of animal, fruit, or vegetable matter used or intended for food or that attend the preparation, use, cooking, dealing in, or storing of meat, fish, fowl, fruit, or vegetables, and dead animals rejected by rendering plants.

030 “Hardness” shall mean a characteristic of water which represents the total concentration of polyvalent cations (e.g., calcium, magnesium) expressed as calcium carbonate in mg/l. Hardness may be calculate for most waters by adding together the values obtained from multiplying the concentrations of calcium by 2.497 and magnesium by 4.116 to obtain the equivalent calcium carbonate concentration.

031 “High-Rate Diffusers” shall mean devices attached to, or part of, a discharge outfall structure which provide discharge velocities that promote turbulent initial mixing of wastewaters with the receiving water.

032 “Human-Induced Conditions” shall mean conditions that have been influenced by human activities.

033 “Hypolimnion” shall mean the cold, relatively undisturbed lowermost layer of thermally stratified lakes.

034 “Impounded Waters” shall mean manmade or naturally occurring collections or confinements of water.

035 “Junk” shall mean old scrap, copper, brass, iron, steel, rope, rags, batteries, paper, trash, rubber debris, waste, dismantled or wrecked automobiles, or parts thereof, and other old or scrap ferrous or nonferrous material.

036 “Key Species” shall mean identified endangered, threatened, sensitive, or recreationally-important aquatic species associated with a particular water body and its aquatic life use class.

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037 “Lake or Impounded Water” shall mean any waterbody with all of the following characteristics: (1) situated in a topographic depression or a dammed stream channel; (2) 30 percent or less areal coverage of trees, shrubs, persistent emergent aquatic plants, or emergent mosses; and (3) total area exceeds 20 acres. Similar waterbodies totaling less than 20 acres are also included if an active waveformed or bedrock shoreline feature makes up all or part of the boundary, or if the water depth in the deepest part of the basin exceeds 6.6 feet. Impounded waters in this definition do not include areas designated by the Department as wastewater treatment or wastewater retention facilities or irrigation reuse pits.

038 “LC₅₀” shall mean the statistical estimate of the concentration of a substance which kills 50 percent of the bioassay test organisms under test conditions specified or approved by the Department.

039 “Metalimnion” shall mean the layer of a thermally stratified lake which exhibits a steep temperature gradient and separates the epilimnion above from the hypolimnion below.

040 “Milligrams per Liter (mg/l)” shall mean the milligrams of substance per liter of solution, equivalent to parts per million assuming unit density of the solution.

041 “Mixing Zone” shall mean the limited area or volume of a water body, as designated by the Department, which adjoins a point source discharge, and into which wastewaters which have received the applicable level of treatment or control are allowed to assimilate, disperse, dissipate, or undergo chemical transformation.

042 “Natural Background” shall mean shall mean quantifiable measurements of water quality existing in the absence of water pollution.

043 “No Observed Effect Level (NOEL)” shall mean the threshold concentration of a substance which causes no observed adverse effects to bioassay test organisms under test conditions specified or approved by the Department.

044 “Noncontact Cooling Water” shall mean water used to reduce temperature which does not come into direct contact with any raw material, intermediate product, waste product (other than heat), or finished product.

045 “Nonpoint Source” shall mean any source of pollutants other than those defined as point sources.

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046 “Nuisance Aquatic Life” shall mean species of aquatic flora or fauna whose noxious characteristics or presence in sufficient numbers, biomass, or areal extent may reasonably be expected to prevent or interfere with a beneficial use.

047 “One-Day Minimum” shall mean the lowest daily instantaneous value measured.

048 “One-Day Ten-Year (1Q10) Low Flow” shall mean the discharge at the ten-year recurrence interval determined from a frequency distribution of annual values of the lowest discharge for one day.

049 “One-Hour Average” shall mean an average of at least two appropriately spaced measurements, as determined by the Department, calculated over a period of one hour.

050 “Petroleum Oils” shall mean all oils other than oils of vegetable and animal origin.

051 “pH” shall mean the negative logarithm of the hydrogen ion concentration ($\text{pH} = -\log [\text{H}^+]$). pH expresses both the acidity and alkalinity of water on a scale from 0 to 14, with 7 representing neutrality (numbers less than 7 denote increasing acidity, and numbers greater than 7 denote increasing alkalinity).

052 “Point Source” shall mean any discernible confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, or vessel or other floating craft, from which pollutants are or may be discharged.

053 “Pollutant” shall mean any gas, liquid, or solid introduced into a body of water that causes water pollution. Pollutants under this definition include, but are not limited to, dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.

054 “Recreationally-Important Species” shall mean any game fish species identified by the Department, or any hybrid thereof, which is important to sport fishermen and readily affected by water quality degradation.

055 “Refuse” shall mean putrescible and nonputrescible solid wastes, except body wastes, and includes garbage, rubbish, ashes, incinerator ash, incinerator residue, street cleanings and solid market and industrial wastes.

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056 “Resident Species” shall mean those species that typically occur in a water body including those that occur only seasonally or intermittently. Species that were once present but can no longer return due to physical habitat alterations are not included.

057 “Rubbish” shall mean nonputrescible solid wastes, excluding ashes, consisting of both combustible and noncombustible wastes, such as paper, cardboard, tin cans, yard clippings, wood, glass, bedding, crockery, or litter of any kind that will be a detriment to the public health and safety.

058 “Salmonid” shall mean any fish belonging to the family Salmonidae. Trout are members of this family.

059 “Sensitive Species” shall mean any aquatic species identified by the Department which has a limited distribution in the State and is indigenous to stable, high quality aquatic environments.

060 “Settleable Solids” shall mean substances such as silt, organic detritus, plankton, or sand, which settle to the bottom of a water body or water column.

061 “Seven-Day Mean” shall mean an average of the daily mean values calculated over a period of seven consecutive days.

062 “Seven-Day Mean Minimum” shall mean an average of the one-day minimum values calculated over a period of seven consecutive days.

063 “Seven-Day Ten-Year (7Q10) High Flow” shall mean the discharge at the ten-year recurrence interval determined from a frequency distribution of annual values of the highest average discharge for seven consecutive days.

064 “Seven-Day Ten-Year (7Q10) Low Flow” shall mean the discharge at the ten-year recurrence interval determined from a frequency distribution of annual values of the lowest average discharge for seven consecutive days.

065 “Standards” shall mean rules or regulations which are comprised of the water quality criteria that are necessary to protect the beneficial uses of surface waters.

066 “Substrate” shall mean any naturally occurring or artificial solid surface which is emersed or submerged in water.

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067 “Surface Waters” shall mean all waters within the jurisdiction of this State, including all streams, lakes, ponds, impounding reservoirs, marshes, wetlands, watercourses, waterways, springs, canal systems, drainage systems, and all other bodies or accumulations of water, natural or artificial, public or private, situated wholly or partly within or bordering upon the State. Impounded waters in this definition do not include areas designated by the Department as wastewater treatment or wastewater retention facilities or irrigation reuse pits.

068 “Suspended Solids” shall mean substances such as clay, silt, organic detritus, plankton, or sand, which are held in suspension by water currents or which exist in suspension as colloids.

069 “Synergistic Effects” shall mean the cooperative action of discrete substances such that the cumulative effects are greater than the sum of the effects taken independently.

070 “Thermal Stratification” shall mean a characteristic of certain lakes in which distinct layers of water that differ in density exist because of temperature differences. These layers are resistant to mixing with each other.

071 “Thirty-Day Five-Year (30Q5) High Flow” shall mean the discharge at the five year recurrence interval determined from a frequency distribution of annual values of the highest average discharge for thirty consecutive days.

072 “Thirty-Day Five-Year (30Q5) Low Flow” shall mean the discharge at the five-year recurrence interval determined from a frequency distribution of annual values of the lowest average discharge for thirty consecutive days.

073 “Thirty-Day Mean” or “Thirty-Day Average” shall mean an average of the daily mean values calculated over a period of thirty consecutive days.

074 “Threatened Species” shall mean any aquatic species identified by the Nebraska Game and Parks Commission whose continued existence as a viable component of the wild fauna of the State appears likely to become endangered or which meets the criteria of for threatened species in the Federal Endangered Species Act.

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075 “Toxic Substances” shall mean those pollutants or combination of pollutants, radioactive substances, or disease causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into organisms, either directly from the environment or indirectly by ingestion through food chains, will on the basis of information available to the Department cause either death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction) or physical deformations, on such organisms or their offspring.

076 “Toxic Units (TU)” shall mean the reciprocal of the effluent dilution that produces the bioassay endpoint.

077 “Twenty-four Hour Average” shall mean an average of at least two appropriately spaced measurements, as determined by the Department, calculated over a period of 24 consecutive hours.

078 “Wastewater” shall mean water containing sewage, and/or industrial wastes, including, but not limited to, discharges from sand and gravel operations, cooling water, storm water, street and road runoff, return flow from irrigation, feedlot runoff, or wastes resulting from land erosion and other discharges, treated or untreated, which enter directly or indirectly into the waters of the State or to any storm sewer, and including the runoff from land used for the disposition of wastes.

079 “Water Pollution” shall mean the manmade or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

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080 “Water Quality” shall mean the biological, chemical, physical, and radiological integrity of a body of water.

080.01 “Biological Integrity” shall mean the plant, animal, and bacteriological species composition of a body of water.

080.02 “Chemical Integrity” shall mean the chemical properties of the water, sediments, or biological organisms (e.g., concentrations in fish tissue) of a body of water.

080.03 “Physical Integrity” shall mean the physical properties (e.g., temperature, turbidity, sedimentation) of a body of water.

080.04 “Radiological Integrity” shall mean the radioactive properties of the water, sediments, or biological organisms (e.g., concentrations in fish tissue) of a body of water.

081 “Water Quality Criteria” shall mean the elements of standards which are expressed as concentrations, levels, or narrative statements and represent the quality of water that is necessary to protect a beneficial use.

082 “Wetland” shall mean those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

083 “Zone of Passage” shall mean the area or volume of a water body outside of any mixing zone or zones which provides a continuous water route for the free passage of swimming and drifting aquatic organisms such that there are no adverse effects to their populations.

Enabling Legislation: Neb. Rev. Stat. [[81-1502 and 81-1505(1)(2)

Legal Citation: Title 117, Ch. 1, Nebraska Department of Environmental Quality